

Remarks

Claims 1-7 and 11-14 are pending in this application, with original claims 8-10 having been cancelled without prejudice in response to the Examiner's 9 October 2007 restriction requirement. Claims 1-6 and 11-14 are amended herein, and claims 1-7 and 11-14 are currently under consideration. The Applicant respectfully requests reconsideration of the claims in view of the amendments and the remarks below.

No New Matter

No new matter is submitted by way of the current amendments to the claims. Claims 1, 6, 11 and 12 are amended to improve clarity and antecedent basis, and claims 2-5 and 13-14 are amended solely to clarify antecedent basis. Support for the term "support panel connector" as used in amended claims 2-3, 5 and 13 is found throughout the specification as originally filed, for example in original claims 1 and 11, at line 18 of page 20, and at line 16 of page 21.

Information Disclosure Statement

The Applicant thanks the Examiner for his consideration of the U.S. references submitted in an Information Disclosure Statement (IDS) on 4 May 2005, and for clarifying in the Office Action dated 28 May 2008 that copies of the cited foreign patent references and the non-patent reference were not in the file with the IDS, and were therefore not available for review. The applicant submits herewith a supplemental IDS, along with the prescribed fee, including copies of the cited foreign patent references and the non-patent reference, and setting out the publication date of each reference.

35 U.S.C. 102 (b) - Claims 1-7 and 11-14 are not anticipated

Claims 1-7, 11, 13 and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by the disclosure of Piccone in U.S. patent no. 5,740,648 ("Piccone '648"), and claims 1-7 and 11-14 were rejected under 35 U.S.C. §102(b) as being anticipated by the disclosure of Lanc in U.S.

patent no. 6,167,669 ("Lanc '669"). To the extent that either of these rejections is maintained with respect to the amended claims, the Applicant traverses.

In order for a reference to anticipate a claim, it must either expressly or inherently teach all of the limitations of the claimed invention. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP 2131.

Independent claims 1, 7 and 11, and the claims that depend therefrom, are respectively directed to stay-in-place formwork for casting vertical concrete structures, to concrete structures made with and incorporating such formwork, and to kits comprising components thereof. The formwork comprises:

- a plurality of vertically elongate wall panels;
- interconnected in edge-to-edge relationship *via* suitably configured elongate wall interconnection means along their longitudinal edges;
- to define an outer perimeter wall of formwork assembly; and,
- a plurality of inner support panels disposed within the wall and interconnected with the wall panels;
- at selected suitable intervals;
- *via* the co-operative interconnection of connector means provided along the edges of the support panels and complementary support panel connector means provided on the inward-facing surface of the wall panels.

In the claimed formwork, each of the wall panels are elongate in the vertical orientation, and are suitably configured to be joined to one another (directly or *via* clips) and held in spaced-apart relationship by perforated support panels that are attached by suitable interconnection or fastening means to the interior wall surfaces of the wall panels. The support panels perform the wall-tensioning functions of the connector panels of prior art stay-in-place formwork for casting vertical concrete structures, but do not also function to join adjacent inner or adjacent outer wall panels to one another, and may accordingly be located at any desired position within the interior of the formwork assembly. This considerably simplifies the construction of an assembly of the claimed formwork, while still maintaining a desired regular interval between internal support for the vertically elongate wall panels.

The support panels in preferred embodiments are spaced at a selected regular interval within a formwork assembly in order to encourage even ‘pillowing’ of the assembly when concrete is poured into it, but may also be located at irregular intervals if it is desired to achieve a particular distorted effect. The resulting proportionality of the formwork assembly not only enhances structural rigidity, but also considerably facilitates the scalability of the assembly such that desired variations in the thickness or other dimensions of the concrete structure can be accommodated without corrupting the regularity of support, and without requiring the production and use of a multiplicity of unique individual components. By way of example, it is possible to construct an assembly of the present formwork in which the wall panels that make up the inner and outer wall surfaces of the assembly (and, of course, also of the resulting concrete wall once the concrete is cast) are of different widths; (e.g. it is possible to construct a partial formwork assembly in which three four-inch-wide wall panels are used to make up an inner wall section, and one each of a two-, four-, and six-inch-wide panel are used to make up the corresponding outer wall section). Similarly, whether or not all of the wall panels used in a given construct are of the same width, the elimination of reliance upon the cellular arrangement of prior-known systems within the formwork allows for the construction of an assembly in which the joints between the wall panels that make up the inner wall surface of the assembly are not aligned with the corresponding joints between the wall panels of the other wall surface.

Neither Piccone '648 nor Lanc '669 disclose or teach all of the limitations of independent claims 1, 7 or 11 (or any of the claims that depend therefrom) either expressly or inherently. To the contrary, the Applicant notes that Piccone '648 is the corresponding U.S. patent to Canadian patent number 2,226,497 issued 5 November 1999, which is expressly cited and described in the background portion of the current patent specification as providing a suitable representative example of a cell-based (or “cellular”) prior-known modular formwork system. As is discussed in detail in the patent specification at pages 2 to 4, this cellular configuration may complicate the assembly of the formwork, especially in situations where variations in the dimensions of the concrete structure are contemplated. The cellular configuration may also in some cases contribute to undesirable distortion of the resulting concrete structure.

Furthermore, since the wall panels of prior-known cellular formwork assemblies are joined together by means of connectors that interconnect with the wall panels along their edges, the

horizontal width of each cell is defined mainly by the width of the inner and outer wall panels, but also by at least a portion of the thickness of the corresponding connectors at either end. Any two adjoining cells of a prior-known cellular formwork assembly will accordingly have a total horizontal width being the sum of: (a) the width of two adjacent wall panels, plus (b) the thickness of the connector between the cells, plus (c) at least a portion of the thickness of the connectors at either end of the two-cell structure. In other words, assuming wall panels of uniform dimensions and connectors of uniform thickness, the total length of a formwork wall divided by the number of cells in that wall gives a resultant cell width that exceeds the width of a wall panel by something in excess of the thickness of a connector, the "something in excess" varying depending upon the number of cells. Since the horizontal extension of each given cell of a prior known cellular formwork assembly is defined not only by the width of the corresponding inner and outer wall panels of that cell but also by at least a portion of the thickness of the associated connectors at either end, and since the connectors also act as tensioning panels, it may be difficult to locate the internal auxiliary tensioning panels (braces) of such formwork at precisely even distances from the connectors at either end and from one another along the width of a cell. In other words, it may be difficult to maintain an even spacing between the connectors and the tensioning panels within a given cell of prior-known cellular formwork, especially if both tensioning panels that are associated with connectors and independent tensioning panels are present in a given cell. This may cause uneven pillowng, which in turn could lead to undesirable distortion of the resulting concrete wall or structure.

Consequently, since the disclosure of Piccone '648 teaches a cellular formwork assembly of the sort wherein the support panels function, in part, to join adjacent inner and adjacent outer wall panels to one another, the disclosure of Piccone '648 can not properly be understood to disclose or suggest "vertically elongate wall panels interconnected in edge-to-edge relationship *via* suitably configured elongate wall interconnection means along their longitudinal edges". Piccone '648 does not explicitly or implicitly teach or disclose all of the limitations of the present claims, and the Applicant thus respectfully requests that the Examiner's rejection under 35 U.S.C. §102(b) with respect to Piccone '648 be withdrawn.

Lanc '669 similarly can not properly be understood to disclose or suggest "vertically elongate wall panels interconnected in edge-to-edge relationship *via* suitably configured elongate wall

interconnection means along their longitudinal edges". To the contrary, Lanc '669 discloses transparent "Concrete Plastic Units" (CPUs) that are elongate in the horizontal orientation and may be stacked on top of one another in horizontal courses: see, for example, the abstract, and column 13, lines 32-35. At column 8, lines 1-15, Lanc '669 specifically teaches away from the use of vertically elongate wall panels, stating at lines 1-5 that it is an object of the CPU "to provide a clear permanent concrete form, that is installed horizontally, to solve the problem, of installing horizontal steel. By placing the forms on a horizontal plane it is possible to install reinforcing steel, in any course, so that the steel is bent around the corners... [sic]".

Furthermore, Lanc '669 can not properly be understood to disclose the interconnection of wall panels and support panels at "selected suitable intervals" to promote the proportionality and scalability of the assembly, such that desired variations in the thickness or other dimensions of the concrete structure may be accommodated without corrupting the regularity of support, and without requiring the creation and use of multiple unique individual components. Conversely, Lanc '669 contemplates the cutting-to-shape of the CPUs to accommodate desired variations, stating at column 8, lines 10-12 that "Another advantage of installing the units horizontally is the ability to be able to cut the units both horizontally and vertically, on site."

Accordingly, since Lanc '669 does not explicitly or implicitly teach or disclose all of the limitations of the present claims, the Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(b) with respect to Lanc '669 should be withdrawn.

Conclusions

In view of the foregoing amendments and remarks, the Applicant believes the pending claims are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If any issues remain or if the Examiner believes a telephone conference would expedite the prosecution of this application, the Applicant respectfully requests a telephonic interview prior to the preparation of any final Office Action.

Respectfully submitted,
LANG MICHENER LLP

By: Irene M. Waller/
Irene M. Waller, Ph.D.
Registration No. 61,634

1500 Royal Centre
1055 West Georgia Street, PO Box 11117
Vancouver, B.C. V6E 4N7 CANADA
Telephone: (604) 689-9111
Telefax: (604) 685-7084